PLASTICS

A Periodical Devoted to the Manufacture and Use of Composition Products

JULY, 1926

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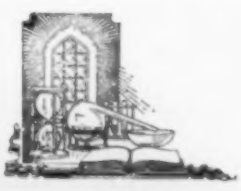
RECENTLY the publisher of PLASTICS was in conversation with one of the leading salesmen of a prominent manufacturer of pyroxylin plastics. This gentleman expressed the thought "that there were in all probability, no more NEW uses for the pyroxylin plastics," and that the only hope for increasing the sale of this time-honored product was to push existing lines.

We expressed our distinctly contrary opinion. In fact, we were so sure that a large number of new ideas, not only for pyroxylin plastics, but in fact all moldable materials, were capable of being drawn out of the general readers of our periodical, that we decided to invest some real dollars to prove our contention — hence — the Prize Contest.

It seems that we are backing the right horse. Not only have suggestions come in, but what is much more interesting is the fact that we have had quite a number of visitors at our offices. These visitors were, in most cases, either inventors, or would-be-inventors, with ideas that they considered so precious that they would not part with them unless assurance was given that they would be amply and justly rewarded.

And so, willy-nilly, PLASTICS is likely to become a clearing-house for the "man-with-an-idea," and the manufacturer with a desire to enlarge the scope of his products. Again—*Service*—that's what we are here for. Avail yourself of this opportunity.

THE PUBLISHER.



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A periodical devoted to the manufacture and use of plastic and composition products

Vol. 2 JULY, 1926 No. 7

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PLASTICS

A periodical devoted to the manufacture and use of plastic and composition products

Vol. 2 JULY, 1926 No. 7

Regeneration of Motion Picture Film

Application of a mixture of solvents and plasticizers restores suppleness

By Dr. Rolle

The regeneration of motion-picture film is becoming increasingly important. At a meeting of the German society known as the "Deutsche Kinotechnische Gesellschaft," April 28th, 1926, the author of this article delivered the same as a lecture. We are herewith giving a somewhat condensed account of the same, as the subject is one of considerable interest to the general industry dealing with the pyroxylin plastics.

Methods similar to those described by the writer would undoubtedly prove useful in the replasticizing of old sheet, rod and tube stock.

CELLULOID films will begin to show signs of aging almost as soon as the raw film leaves the factory. This applies especially to the celluloid base, and is recognizable by the odor of camphor, and other plasticizing agents, which are beginning to escape. The polymerization of the cellulose nitrate also becomes evident, and causes a gradual loss in elasticity in the film.

As the film is exhibited and otherwise used, this loss in elasticity will give rise to rents and to an occasional breaking away of the perforations. At the same time scratches appear on the film, both on the emulsion as well as the uncoated side, and these scratches become filled up with grease and dirt. The so-called "rain," which appears on motion picture film that has been exhibited a number of times, is due to this cause.

Life of Film

In general, the active life of a motion-picture positive film, such as is exhibited in theatres, is about 70 days, and if exceptionally well taken care of, 80 days. This short life of a film has led many experimenters to attempt to devise methods to prevent the premature deterioration of this relatively expensive material.

One method, of general utility, sponsored by the German Kino-technical Society, was to so standardize the size of the films, distances between perforations and methods of transportation, that the film would be subjected to the least possible strain on shipment and exhibition. Another generally used method is to clean the film by means of brushing machines or by polishing the same with leather, usually together with some more or less "secret" preparation. Usually these preparations consist of some form of soap in admixture with abrasives, but this results in making the film rough and more subject to the adherence of dirt and grime.

The use of dirt-solvents, such as alcohol or tetrachlorethane has been tried, but while this undoubtedly removed the dirt, it left the scratches, which interfered with a clear and "rainless" projection of the film. The scratches refract light differently than the unharmed film, and this badly distorts all regions near such a defect. Other means employed to protect motion-picture film consisted in covering the same with a sort of varnish or lacquer as soon as the positives had been completed, the usual material being a form of zapon lacquer or cellulose nitrate varnish. While this kept the film clean for a longer time, the coating had to be removed eventually when it became too badly scratched up, but could of course be renewed—all of which was rather complicated and expensive.

A third method was somewhat more rational. It was based upon the recognition of the fact that when a film gets old, it loses something, and that the proper method of again making the film sufficiently supple must supply what has been lost. As the plasticizing agents, usually some form of camphor or the like, apparently evaporated from the film, some attempts were directed to prevent this. The addition of camphor to the packing boxes in which the film was kept was one method tried, but it proved ineffective. Another experimen-

ter, Firle, built apparatus through which the film was passed in a zig-zag direction, while camphor, acetone, organic esters and other vapors were passed over the same.

This undobutedly improved the film a little, but the method did not solve the real problem, and until a short time ago, such regenerated films did not possess all the desirable properties

Blurred Film

of the original clean positive.

About five years ago, an experimenter by the name of Stock took up this subject, working on it in the city of Munich, Germany. He based his methds upon the fact that an old film suffers from two diseases: firstly, it has accumulated an excess of dirt and scratches, and secondly, is deficient in plasticizing agents.

Both Sides Treated

The first attempts consisted in applying mixture of solvents and plasticizing agents to the celluloid side of the film. This caused the material to swell up and then assume a varnish-like gloss. The solvents eventually evaporated, but the plasticizing agents remained in the film and increased its suppleness. Attempts were then directed toward the regeneration of the gelatin or emulsion side of the film. For this purpose a mixture of materials capable of swelling gelatin, and of solvents was prepared. Similar phenomena took place in the gelatin, as had been observed on the celluloid.

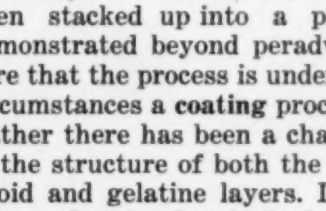
The scratches began to close up except for almost insignificant scars, and the emulsion side became much clearer and, optically, presented an appearance which did not differ from that of the original positive when freshly manufactured. In fact, regenerated film was even better than a new one, as the operation of developing and fixing have a tendency to remove some of the plastizing agents from celluloid. Treatment of freshly printed, developed, fixed, washed and dried film by the treatment devised by Stock showed that such a positive was actually superior to the ordinary run of film.

Structural Changes

To the solutions used for treating the gelatine side of the film, Stock also added materials which rendered the gelatin more or less waterproof. Experiments made with such treated and regenerated film, and tests made upon the same by experts and scientific institutes, demonstrated the fact that the films were, for some reason not yet completely understood, actually clearer and more brilliant on projection. According to microscopic investigations made by Stock, certain physical changes take place in film sot reated.

Microtomic sections made from layers of film which had been stacked up into a pack, demonstrated beyond peradventure that the process is under no circumstances a **coating** process. Rather there has been a change in the structure of both the celluloid and gelatine layers. It is known that in chemically hardened films the black or silver-bearing parts are raised above the surface of the film, whereas in the films treated by Stock's method, the reverse is true; that is to say, the silver-free, or clear, parts of the firm are raised instead.

This is probably the cause of the superior brilliance of the treated films. Further experiments showed that treated films were considerably more resistant to scratching and mechanical strain. Stock has proposed the following theory to account for the increased permeability of the film to light rays after the treatment. Inasmuch as the lighter or clear parts are raised, he assumes that while the gelatin side of the film is still soft with the solution applied, and its viscosity is hence diminished, that the very fine silver particles which constitute the image have a tendency to migrate, probably towards the denser portions of the image, thus effecting a sort of intensification, while at the same time the clear parts be-



The High-lights are Made Clearer

Regenerated Film is as Good as New

come still more transparent. At the same time the space vacated by the silver particles was assumed to be taken up by the colloiding agents applied to the film.

The next step, and by no means an easy one, was the tranfer of this process to actual practice. This necessitated the invention and construcition of machinery to rapidly and economically carry out the operations commercially. It must not be forgotten, that if the amount of solvents applied were too great, the film would tear, and if too much liquid were applied to the gelatin side, this would soften and smear. The writer has seen the process, known as the "Recono process" in action, and has convinced himself that no harm to the films results from the treament. The actual operations are as follows:

The first thing done is to brush the film on both side with a preliminary cleaning machine. This makes use of four rotating brushes consisting of German silver wire, the wire having a diameter of only 0.04 mm. for use on the emulsion side, and 0.06 millimeter for the reverse or celluloid side. The reason for using metallic brushes is that in this way any harmful heating

(*Continued on page 236*)

Bakelite for Electrical Fixtures

Parts formerly made of metal can be displaced by molded phenol resins

By Alan Cohen

THE uses of Bakelite products are most varied, and the applications in which they are found are often as interesting as they are different. A new field, which Bakelite is entering more and more, and one in which it has achieved especial prominence in recent months, is that of electrical appliances.

In the past, many pieces of electrical equipment were made of metal, not always because this was the most desirable material, but often because it had come to be, more or less a matter of course.

In Place of Metal

The introduction and development of phenol-formaldehyde resin products gave to the industrial world a new solution to many problems encountered in the manufacture of products suited to the special requirements of heat resistance, electrical resistance, self-lubrication, resistance to chemical action, strength, durability—and fine appearance. It does not seem strange, therefore, that Bakelite has come to be used as the material for various pieces of electrical equipment when one considers its properties of dielectric strength, resistance to heat, chemical inertness, durability, and fine finish.

Switch plates made of Bakelite are enjoying very marked popularity because of the enduring service coupled with fine appearance, which their use affords. Such wall plates are available in a variety of colors, and are applied with either lustrous, or dull finish, as desired. It can readily be appreciated that switch plates and wall sockets of Bakelite, will conform very well to the needs of the Interior Decorator. They harmonize uniquely well with various woods of chamber casements, and when attached to pieces of furniture, add to, rather than detract from, their appearance. Some of the toggle switch plates provide a pleasing combination by having the plate itself of dull brown finish, with lustrous beveled trim, while the

throw lever is made of clear, amberhued Bakelite. An added feature is sometimes provided, by having the throw lever centrally luminized, so that it can be found readily in the dark.

Wall Fixtures

The increasing use of Bakelite for electric wall fixtures is also worthy of note. Such wall sockets, molded from Bakelite have an excellent finish, and their dimensional accuracy is commendable. Moreover, it seems quite reasonable that electrical fixtures should be made of non-conducting material, and the increasing use of Bakelite for this purpose may in some measure reflect public approval in this regard.

While the ability of Bakelite to resist heat may be readily assumed to be a significant factor, the question of resistance to chemical action may not at first, to the layman, seem to be of such direct importance. However, all of us who have been at the seashore and have witnessed the destructive action of the salt sea atmosphere, as evidenced by the corroding of switch plates and electrical fixtures, not to mention many other examples, of objects which once bright with metallic lustre, have become green, brown, rough and rusty in appearance—may immediately sense a connection. Of course the desirability of installing Bakelite fixtures in industrial plants where the atmosphere is continually pervaded by chemically destructive vapors, needs no comment.

While the illustrations cited, by no means compass the field of service which Bakelite enters in serving the needs of the manufacturers of electrical specialties, they are certainly typical and interesting. The subject well illustrates the versatility of Bakelite in replacing various materials. Many architects and builders, as well as executives and householders, who have occasion to select electrical equipment for new installations or replacements, either in industrial plants or in the home, will find the use of Bakelite a real solution to their problems.

Commercial Uses of Casein in an early issue

The Making of Horn Fine Combs

Details of manufacture of this widely used commodity are interesting

By L. B. Kavanagh
President, Standard Tool Co.

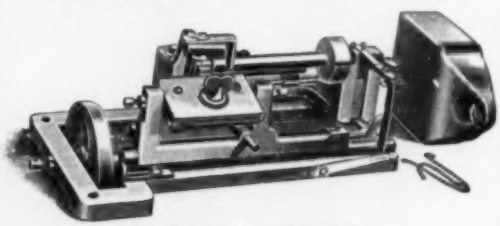
IN making horn Fine-Combs the pressed horn plates are sawed into strips of proper width and length and these strips are then planed in a horn planer same as is used in making dressing combs, but if it is desired to have the fine combs of any other than a flat shape, extra cutters of suitable shapes and extra inner bed pieces are required for the horn planer, and one or more additional planers are generally used.

The planed strips can be beveled back a little on each side where the points of the teeth will come, with a top cutting burr in a single rounding machine, and then cut to length and shape at ends desired for the blanks, after which the teeth are sawed in a fine comb sawing machine. The comb blank is put into the clamp of the machine. The carriage which carries the clamp is shoved to left until it strikes against the stop gauge by the operator, and it then feeds along and saws the teeth and stops automatically after all the teeth on one side of the comb have been sawed. The comb is then reversed in the clamp and the teeth sawed in the opposite side of the blank. One operator can tend a number of fine or dressing comb sawing machines, and it is usual to set them up in rows on long benches.

After the teeth have been sawed in fine combs, they are slicked up on sand wheels.

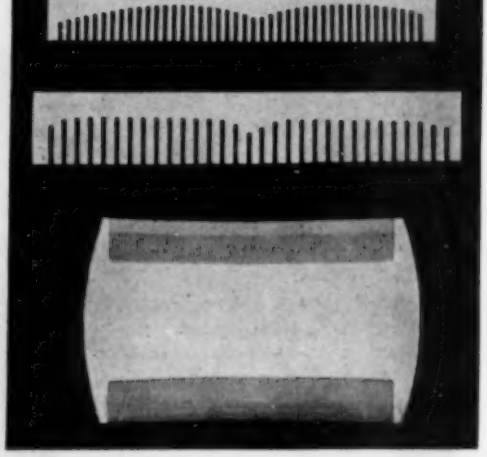
The combs are next finished on rubbing and polishing balls. Pocket comb sawing machines

are same as fine-comb Sawing Machines but with attachments added so that the line of the roots of the teeth may be varied to correspond with the shape of a gauge on the front side of the



Comb Sawing Machine

machine nearest the operator. Fine-combs with teeth following a curved line can also be sawed on this machine.



Showing appearance of combs just after teeth have been sawed

The shape of the gauge can be changed or it can be easily removed and replaced by another.

The teeth of the small circular saws which are used in the dressing and fine-comb sawing machines have to be filed frequently to sharpen them, and this can be done much faster and more evenly so that they will cut faster and make better teeth with a filing machine than it can be done by hand.

The filing machines can be run either by hand or by power, and they feed automatically, so that the saw revolves the distance of one tooth at each stroke of the file in the machine.

It is usual to have one filing machine for the dressing comb saws and another filing machine for the fine-comb saws, because if there is only one machine for both kinds of saws, an extra ratchet wheel and center is required and the machine must be frequently readjusted and the wheels changed for the different sizes of saws. The saws are now removed from the spindles on which they run when being filed. The saw spindle is lifted out of the sawing machine and placed in the filing machine.

In filing the saws a burr or beard is then found on the side of the saw, and this must be removed before the saw is used for this purpose, as the saw on its spindle is turned around by hand in the bearder hardened steel scrapers remove the burr from the teeth.

Production of Casein Solids

Partial neutralization of the acid in precipitated casein is the essential feature in recently patented process

Andrew A. Dunham

THE preparation of casein solids, or celluloid substitutes, from acid-precipitated casein, is the subject of a recent patent assigned to the Casein Manufacturing Co., by the inventor, Mr. Andrew A. Dunham, of Bainbridge, New York. The patent, U. S. P. 1,575,155, of March 2, 1926, filed February 14, 1923, describes the invention as follows:

Older Methods

"At present in the manufacture of casein solids, which are used in the arts to replace the more expensive horn, celluloid and phenol condensation products, great care is required in the preparation of the raw casein used in such manufacture. Not only is it necessary to use a casein precipitated by rennet extract, but moreover the temperature of the milk treated as well as its acidity must be very closely controlled or the casein produced will not be suitable for making casein solids. The result has been that the cost of making this special casein of the required quality has been very high as compared to the usual acid-precipitated caseins, which are readily found in the market.

Present Methods

The present invention has for its object the manufacture of casein solids from the ordinary grades of commercial casein, such caseins being those which have been precipitated from the milk by means of such acids as hydrochloric, sulphuric, formic, acetic and the like. It has been found that casein solids of good quality can be produced from acid caseins by the followings process:

Free Acid Content

The commercial acid-caseins contain a considerable amount of the free acid used to precipitate the milk, with the result that such caseins when employed in the usual way do not produce casein solids of the desired quality. They are brittle, more or less porous and of generally poor quality, because the casein particles, while fusing during the compacting process, do not lose their granular form and therefore open spaces between the granular particles, making impossible the production of a smooth, uniform surface. On the other hand, when all the free acid in commercial acid caseins is neutralized, the casein will not fuse or press together upon completion of heating, sufficiently to secure a satisfactory casein solid, the resulting solid showing lack of strength when it is being cut or turned by automatic machinery, and being quite apt to show cracks and check marks. A neutralized acid casein is therefore even less suitable for use in the manufacture of solids than is ordinary acid casein. According to the present invention a portion of this acidity is reduced, but without removing the entire acidity, with the result that the casein solids made by this process are of good quality.

There are at least four large producers of casein plastics, and several others are making plans to enter this field. Manufacturing details have always been guarded—but now patents are being issued.

One hundred pounds of dry casein known as "sulphuric cooked" casein are ground to a powder of about 70 mesh. A 1 gram sample of this casein is placed in 10 cubic centimeters of cold water and allowed to stand 30 minutes, the mixture is then boiled for a short time to thoroughly extract the free acid from the casein. The acidity as represented by the water extraction is now determined by the usual chemical methods. If, for instance, the analysis shows the casein to contain 1.10% H_2SO_4, it would require 4.25% of borax to entirely neutralize this acidity. This process, however, requires that the casein shall be slightly acid and shall show on analysis (for instance by the method mentioned above) not more than 0.75% nor less than 0.25% of H_2SO_4 or a corresponding amount of any other acid used to precipitate the milk in making the casein.

Analytical Control

In the example assumed above, analysis shows 1.10% H_2SO_4 and since say 0.25% acidity in the casein is required it will be necessary to use 3.32 lbs. of borax or a corresponding amount of other acid-neutralizing chemical in order to bring the acidity to the required degree for making the solids from the 100 lbs. of casein to be used. The next step is as follows: 300 lbs. of water are placed in a tank fitted with a steam jet, and

(*Continued on page 239*)

Fig. 1.

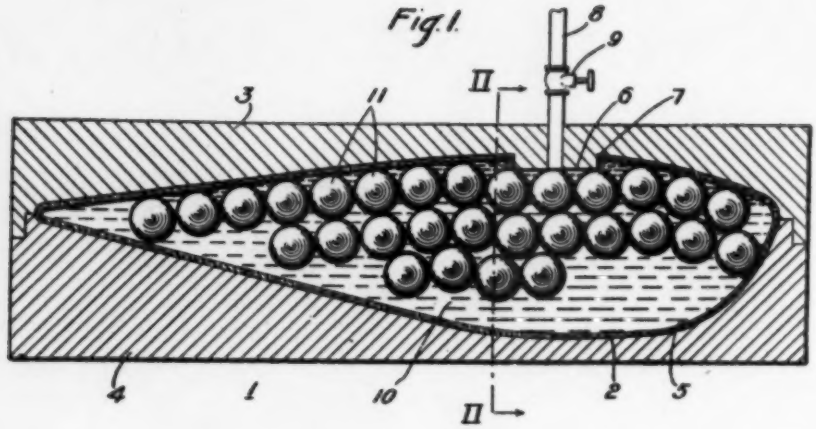
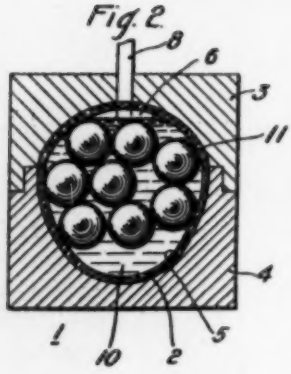


Fig. 2

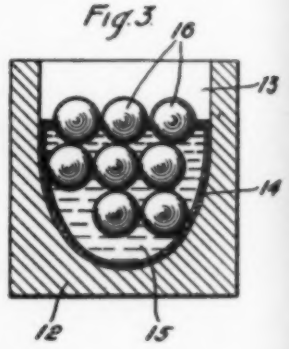


The Molding of Very Large Objects

Fusible metal cores to transmit pressure

By Robert Kemp

Fig. 3



PLASTIC materials suitable for molding are usually considered as adapted only for the manufacture or relatively small, or intricate parts, and the average person is unacquainted with the fact that the art of molding material by means of heat and pressure can be, by suitable devices, employed for the production of very large objects.

It is doubtful if there are many who are aware of a recent invention of Robert Kemp, U. S. Patent 1,572,936, Feb. 16. 1926, assigned to the Westinghouse Electric & Manufacturing Co.

Airplane Pontoons

Working in accordance with this method of molding, it becomes possible to mold objects as large as the pontoons and even the fuselages of airplanes, or for actually molding a one-piece boat from such hardenable materials as phenol resins. The interesting feature of the invention is that no large hydraulic presses are required, irrespective of the size of the molds used.

The essential features of the invention are the use of a fusible core material, which, although introduced solid, become fused at the molding temperature and hence allows of its use to transmit hydraulic pressure to the material being molded so as to force the latter into intimate contact with the mold. At the same time it allows of the removal of this core-material by syphoning the same off before it becomes set. To minimize the amount of core-material needed, hollow balls of infusible material, of sufficiently small size to permit of removal through comparatively small openings in the finished object, are used.

In order to understand the illustration, it is necesarry to refer to the accompanying cuts. The material used for making the pontoons, or similar objects consists of fibrous sheet material such as paper, duck or the like, impregnated with hardenable phenol resins. In practicing the invention a body of the moldable material is assembled about the core and inclosed within a suitable mold. Heat is then applied, in any suitable manner, to fuse the core, and fluid pressure is applied to force it into engagement with the enclosing body and so to compress the body that it may be cured into a compact, solid form.

Referring to Figure 1 and 2 of the drawings, which represent the production of a molded airplane fuselage, 2, and comprising upper and lower mold members 3 and 4, which, in closed position, provide a mold chamber 5. The upper mold member may be provided, at a suitable point, with an inwardly projecting boss 6 to seat within a cock-pit opening 7 of the body being molded, and a pipe 8 may be extended through this boss in order that fluid under pressure, may be introduced to the mold, the admission of this fluid being controlled by valve 9.

Removing Cores

The core material described by the inventor consists of an alloy of very low melting point, comprising two parts of bismuth, one part of tin and one part of lead. The round objects

(*Continued on page 246*)

China Wood Oil Plastics

Quenching partly polymerized oil produces an excellent binding medium

THE number of materials suitable for use as a binder in plastic compositions, is continually augmented. Recently attempts have been, and apparent-successfully, to utilize a peculiar vegetable drying oil, that has the desirable property of being capable of polymerization, in which state it is insoluble in most organic solvents, and also acts as a very efficient binding agent.

For molded objects in which a certain amount of pliability is desired, China wood oil forms a suitable binding agent. The use of this oil, the product of the fruit of a Chinese tree, *Aleurites cordata or Eloecocca vernicia*, to produce a special form of binding agent has been patented March 16, 1926, by Alfons G. Schuricht and George T. Wright, both of Alton, Illinois, and assigned to the Western Cartridge Co.

Polymerization

Advantage is taken of the fact that the polymerization of this oil takes place at a fairly definte temperature. To accelerate the reaction certain dryers are added. For example 4.5% of a metallic drier, such as lead resinate, is added to China wood oil, and the oil then heated to about 450 degrees Fahrenheit. The heating must be carefully controlled for if a certain point is passed, the product will be useless for the purpose intended.

The time to bring up the oil to the temperature stated is one and a half hours, and another similar time period is required to bring the oil to the right stage of polymerization. The final stages of the polymerization are extremely rapid and the process must be closely controlled at this point. The heating is carried on to a stage where the oil solidifies to a jelly-like mass which has a slight tendency to crumble. It is, however, still very sticky, but if heated beyond that point would become crumbly and devoid of the desirable properties of being capable of use as a binder in plastic composition.

As soon as the proper point has been reached, therefor, the oil is at once stopped from further polymerization by quenching the same by pouring it into cold water. After the water and oil have cooled, the crumbly polymerized oil is placed on a screen and the water allowed to drain away.

This material is mixed with suitable fillers and molded in quite the usual manner. For flexible material, for example, ground cork may be mixed with it and the mixture molded. These articles can either be cured by exposure to air, or, preferrably, by heating in the molds to from 200 to 220 degrees Fahrenheit for one and a half hours. This makes the process one that is comparable to vulcanization, the heat being easily attained by the use of steam.

This curing will cause the mass to become cemented, for while before curing the mass is friable, after such curing it becomes firm, tough and pliable and forms useful objects.

The point emphasized as being new in the art, and covered by the claims, is the quenching of the oil by pouring it into water. Incidentally, the polymerized China-wood oil of the consistency of jelly and crumbly, is claimed as an article.

Getting Your Product Tested

Just how far the Bureau of Standards will go in cooperating with manufacturers

Many readers of PLASTICS are included among the several hundred manufacturers who apply every year to the United States Bureau of Standards for scientific tests of their products. It is interesting to note that but comparatively few of these applications are accepted.

The other day, Dr. F. C. Brown, assistant director of the Bureau, was asked how a manufacturer ought to go about getting any mechanical or chemical product into the Bureau's laboratories and why so many requests were refused. In answering, he said that the first factor to be considered by the Bureau's officials was the manufacturer's motive. Frequently, he explained, and perhaps in the majority of cases, tests are requested solely because of the influence of the results on the manufacturer's advertising, and the officials do not care to make any tests for the purpose of advertising. But Dr. Brown hastened to add that his organization does offer an exceedingly valuable aid to advertising for those manufacturers who guarantee that their goods are made according to certain specifications.

An Actual Experience

"Perhaps I can make the procedure clear," he continued, "by relating an actual experience which illustrates the wrong and the right way to secure a Bureau test. Several years ago, a manufacturer of an automobile accessory wrote us and requested that his product be tested in our laboratories and that our report state merely whether or not his product was superior to all others of its kind.

"Obviously, this manufacturer wanted to advertise a statement of superiority with the Bureau's authority, and we could not accept his proposition.

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EDITORIAL · IMPRESSIONS

"In Union There Is Strength"

THIS month marks the close of an important epoch in the history of our country. One hundred and fifty years have passed since that memorable day when our proud forefathers threw caution to the wind and declared their independence from the mother country—to march on alone to the greatest success that has ever attended an experiment in popular government.

What was it, after all, that made this country so fortunate? Cooperation—unity — harmony —and the desire to promote the well-fare of the greatest possible number. True, we had to fight a bloody war to retain that unity, but out of it all there grew stronger bonds, so that on this sesqui-centennial celebration, Old Glory floats from coast to coast and from Florida to the state of Washington.

As an example of what proper cooperation between forty-eight states can accomplish — and as contrasted with the abortive efforts to get the so-called League of Nations aworking, there is no better one than the U. S. A.

While we differ on many matters—and rightly so, as a healthy public opinion is only developed by free and frank discussion—we are, essentially, a unit. And that is the important point.

What is true of a large political unit, is true to a remarkable degree of smaller cooperative organizations. A specific example, anent *Plastics*, is the Pyroxylin Fabricators Association. While only a year old, it has already given much promise of doing a great deal for the industry. Unfortunately — that is, for those belonging to certain divisions of that organization—some sections, as the Optical Section, have failed entirely to function.

In view of the overwhelming success attending the many trade organizations in the past, in other lines, it is difficult to find a reason for this blindness to an opportunity that is fraught with so many possibilities for good. What this industry needs more than anything else in the world, is the spirit of friendly cooperation; a free exchange of ideas; an airing of grievances and a desire to help the whole organization—to the measurable and immediate benefit to all who participate.

Invoices

ONE of the questions that disturbs the even flow of the pyroxylin plastic industry is that of terms and dating of invoices.

It is a form of competition that is particularly liable to be used for practices that are, to say the least, questionable. Some of the less scrupulous concerns make a practice of giving long-term credits to some of their customers in lieu of rebates, and, obviously the one who does not get this concession is at a distinct disadvantage when competing against the one who enjoys the privileges of of paying for his goods in six months instead of one.

Standardization of practice in this regard, with terms not over sixty days, would help considerably. The question of discounts on quantity purchases is an entirely different matter, and concessions to the large purchaser who is carrying heavy stocks, is justifiable. But the dating of invoices and the terms of payment should confirm to a standard to be agreed upon and lived up to.

The Contest

TO simply think of something that, perhaps, is new, is one thing. To have the energy to carry out the idea is another. To have enough resources, either money or facilities, to bring the idea to a successful issue is still a third thing—and by no means the least.

There are countless thousands going through life who have good ideas, but lack either of the two other "priceless ingredients" to make their ideas produce money and success for them. To this type, as well as to some of the others, our contest is directed.

What good is your idea if no one, not even yourself, uses it? If it is exceedingly good, it can perhaps be patented. Don't be afraid to send in ideas with the thought that by so doing you are disbarred from exploiting them. Remember that besides the possibility of winning one of the prizes, it is also possible that it may be the means of putting you into touch with some manufacturer who would be only too glad to avail himself of your services as an originator of merchantable ideas. Don't wait until the last minute. Then there will be a rush and you might be overlooked. Ideas are being examined and judged in the order of their arrival here.

So get busy.

Gelatin Plastics

CONSIDERABLE interest was evoked by a recent article on the molding of perfectly dry gelatin.

Apparently this is a "new one" to the American molder. As a substitute for the more expensive types of plastics, it appears to have decided advantages. Experiments along this line might prove remunerative.

Pyroxylin Fabricators Association Holds First Annual Meeting

THE Toilet ware division of the Pyroxylin Fabricators Association held its first annual meeting and dinner at the Hotel Lafayette, New York City, on the evening of June 28th, 1926. Fourteen firms, represented by twenty-seven executives, were in attendance.

Among those present were the following firms and representatives:

Manicure Novelty Mfg. Co.
Lew Joseph
J. E. Joseph
Atlantic Comb Works
Major Newell
D. H. Feldman
Newark Tortoise Shell Novelty Co.
Morris Marx
Roseville Novelty Works
Eben McCree
B. H. Marx
The Celluloid Co.
M. L. Havey
Geo. Voelker
S. Langsdorf Co., Inc.
L. D. Cahn
John Baumann
Art Ivory Mfg. Co.
L. Marder
Sol Weil
DuPont Viscoloid Co.
A. E. Pitcher
E. H. Leach
Shorham Mfg. Co.
Fred Nueske
Chas. Nimmich
Howard Specialties Co.
Ed Neugass
N. Brandt
Jos. H. Meyer & Bro.
M. C. Meyer
Dr. Higgins
Marveloid Ivory Co.
M. Sternberg
The Fiberloid Co.
E. J. Levine
A. J. Levine
American Powder Puff Co.
M. Streejack
Pyroxylin Fabricators Assoc.
F. D. Dodge, Sec'y
M. Clark, Ass't Sec'y

The toilet ware division of this association is the only one that is functioning at the present time, as the optical and other divisions are not active.

This division has a total membership of twenty-three firms, which is about 60% of the total number of firms comprising the industry. This group represents about 90% in productive capacity.

The meeting was called to order at 7:30 P. M., by Mr. Morris Marx, president of the association. After dinner Mr. Marx discussed the past years activities, and showed that even though the association is only a year old, much constructive work had been accomplished.

For the coming year he stated that plans had been made to form a credit bureau, which would compile and disseminate credit information to all members of the association.

He again called attention to the cost system which had been worked out by Mr. Louis Cahn, and which as far as he knew had not been applied universally by the members of the association.

"This cost system will help everyone in our business," said Mr. Marx. "Its use will make the merchandising of toilet ware one that can be done at a legitimate profit. It will eliminate selling of merchandise at a loss and not only help the individual firms, but will make cleaner competition." He also discussed the credit methods used by the sheeting manufacturers and condemned their policy of extending long terms of credit to irresponsible fabricators.

Aonther point touched by Mr. Marx, was the hiring of the employees from competing manufacturers, and he stated that an agreement should be entered into, that no toilet ware manufacturer should hire a workman from a competitor, unless the former employer agreed.

"This method of obtaining men," said Mr. Marx, "in many instances has caused labor difficulties, due to competitive wage rates, and creating dissatisfaction among employees."

The president then closed his address by eulogy of Mr. Fred Neuske, who had acted as secretary of the association for the past year. The association presented Mr. Nueske with a very handsome leather and gold bill fold in recognization of his valuable services.

Mr. Leo Marder, the chairman of the toilet-ware division, then read his annual report and also tendered his resignation. After discussion, Mr. Marder's resignation was accepted by the president, but he was immediately reappointed by that officer to again function in his present capacity.

Mr. Nueske tendered his resignation as recording secretary, which was regretfully accepted by the president, who then introduced the new secretary, Mr. F. D. Dodge.

Mr. Dodge will act as the official secretary for the coming year and as his work is independent of any affiliation in the association, it is expected that much advancement in the association activities will be achieved.

Amongst other things Mr. Dodge stated that he would immediately form a credit information service that would be available for prompt and ready reference.

A series of forms will be made on which all available information will appear in relation to any retail account in question.

He stated that another function of the secretary, would be to compile statistical information which would show the toilet ware manufactures the exact and varying conditions of the trade.

The meeting was then opened to a general discussion and talks were given by Mr. A. E. Pitcher, Mr. M. L. Havey, Mr. E. J. Levine, Major Newell, Mr. Ed. Neugass, and Mr. D. H. Feldman.

The meeting was closed with everyone optimistic regarding the future of the association. The next meeting of the executive board of the association will be called some time in July.

Film Regeneration

(*Continued from page 226*)

of the film due to friction is avoided. The brushes are therefore air-cooled. Any film dust is caught in the lower part of the brushing machine and can readily be removed when desired.

Following this, the film is carried zig-zag over rollers, being kept under continuous tension by means of weights. The capacity of the machine inspected is 400 meters of cleaned film per hour (about 1,400 feet). This brushing makes the film quite different than when the process is first started. The real regenerating operation then begins.

The machine for this purpose looks something like a closet, about three to four meters (about twelve feet) long. The film, coming from the brushing apparatus passes a final cleaning brush and a suction apparatus to insure the complete removal of all dust-particles, and is then into a tray containing the regenerating fluid. This stage of the process is carefully regulated so that the film will pick up, by adhesion, a determined amount of this fluid. This causes the celluloid to swell. The atmosphere in the regenerator soon becomes saturated with the vapors of the solvent employed, so that means must be employed to properly ventilate the same.

The film then passes through an electrically heated drying chamber. The following changes in size of the thickness of the film accompany the operations: before treatment 14/100 of a millimeter, after wetting 18/100, and after drying 16/100 mm. After running this regenerated film in projection apparatus for a few weeks it will finally again shrink to its original thickness of 14/100 mm. At the same time the film will become slightly longer, thus accurately compensating for the shrinkage which had taken place during the ageing of the film. The treatment of the gelatin side follows, and is entirely similar in principle. The actual speed of the film through

(*Continued on page 238*)

$250.00
in prizes for ideas

WANTED: NEW USES FOR PLASTICS

PYROXYLIN PLASTICS, PHENOL RESINS, CASEIN SOLIDS, SHELLAC OR OTHER PLASTICS

Have you an original practical idea for a new use of plastics? Your suggestion may win one of the five prizes.

PLASTICS is going to pay $250.00 in prizes to five men or women in exchange for new ideas. Why not be among them?

We are holding this contest in an effort to uncover original ideas for the use of all manner of plastics. These ideas will be given to the trade at large as soon as the prizes have been awarded.

The employment of pyroxylin-plastics in the making of fountain pens, for example, was a new and practical development. You may have in mind dozens of similar suggestions for new uses of these versatile materials. Any one of them may win a prize.

Everyone is eligible,—clerk, executive, bookkeeper, foreman—everybody. Send all the suggestions you have;—the more you send, the more chances you have of winning. The only restriction is that if your suggestion has ever been applied to that particular plastic it cannot win a prize.

The prizes will be as follows:

1st - -	*$100.00*	*3rd - -*	*$50.00*
2nd - -	*50.00*	*4th - -*	*25.00*
		5th - -	*$25.00*

This contest is open to all. There are no strings tied to it; you do not have to be a subscriber to PLASTICS. All entries must be delivered at the office of PLASTICS by noon August 15, 1926. The names of the winners will be published in the September issue.

Your suggestion will be judged solely on its merit, originality and practicality. No thesis or letter is necessary. However, the more detailed the description, the easier it will be for the judges to pass on its merits. If necessary, attach a sketch or drawing.

Prizes will be awarded according to the following conditions:

The use suggested must be new; that is, never before made in the plastic product suggested.

Its practicality.

Its human interest or need.

Its ease of manufacturing.

Its marketability.

Rules Governing Idea Contest:

1. All suggestions must be in the hands of the Contest Editor, PLASTICS, 461 Fourth Avenue, New York, August 25th, 1926.
2. More than one idea may be submitted by a contestant, but each idea must be on a separate sheet bearing contestant's name and address.
3. Everybody, whether connected with the plastic industry or not, is eligible for an award.
4. All ideas submitted will be passed on by the three judges. Their decision will decide the respective prize winner.
5. In case of a tie, the full prize will be awarded to both contestants.
6. Name and address must appear at the top of each sheet.

JUDGES FOR IDEA CONTEST—

Hugh E. Agnew, Professor of Advertising and Marketing Research, New York University.
M. Hanenson, former President, The Piroxloid Products Corporation.
Carl Marx, Editor of PLASTICS.

Write out your ideas and mail them to-day to

Contest Editor, PLASTICS, *461 FOURTH AVENUE NEW YORK CITY*

PLASTICS will be glad to send reprints of this advertisement to any concern desiring to post it on bulletin boards or to place them in any conspicuous place.

PLASTICS reserves the right to publish any or all matter contributed.

Film Regeneration

(*Continued from page 236*)

the device is about 50 centimeters per second.

Value of the Process

Experts have stated that a film played for from four to six weeks can be so benefited by this process that it will be the equal of one that has been played but a single week. It is applicable to new films, but in this instance is applied only to the celludoid side.

After 15 weeks' playing, the film is equal to an ordinary one played about four weeks. Measurements made in the German government "Material prufungsamt" (corresponding about to our Bureau of Standards) show that the stretching, which in the case of untreated film was about 17%, became increased to 25% after regeneration. The breaking strength was decreased from 12.4 to 11 kilograms. Based upon an average pull of 7.5 kilograms in the usual type of projector, the stretch produced by this pull was increased in one instance from 3 to 4%, and in another from 1.5 to 3.2%, or about doubled.

Thus far, actual working results have been excellent. Manufacturers of film may be interested to learn that this process is equally applicable to motion-picture negatives.

In the general discussion which followed the presentation of the paper and the showing of a motion-picture depicting the process, Professor Lehmann pointed out that what took place was probably due to the rounding edges of a scratch have a tendency to bend light rays, they produced optical disturbances which are much more noticeable than the mere scratch itself would lead one to believe. The process rounded off the edges and prevented this phenomenon.

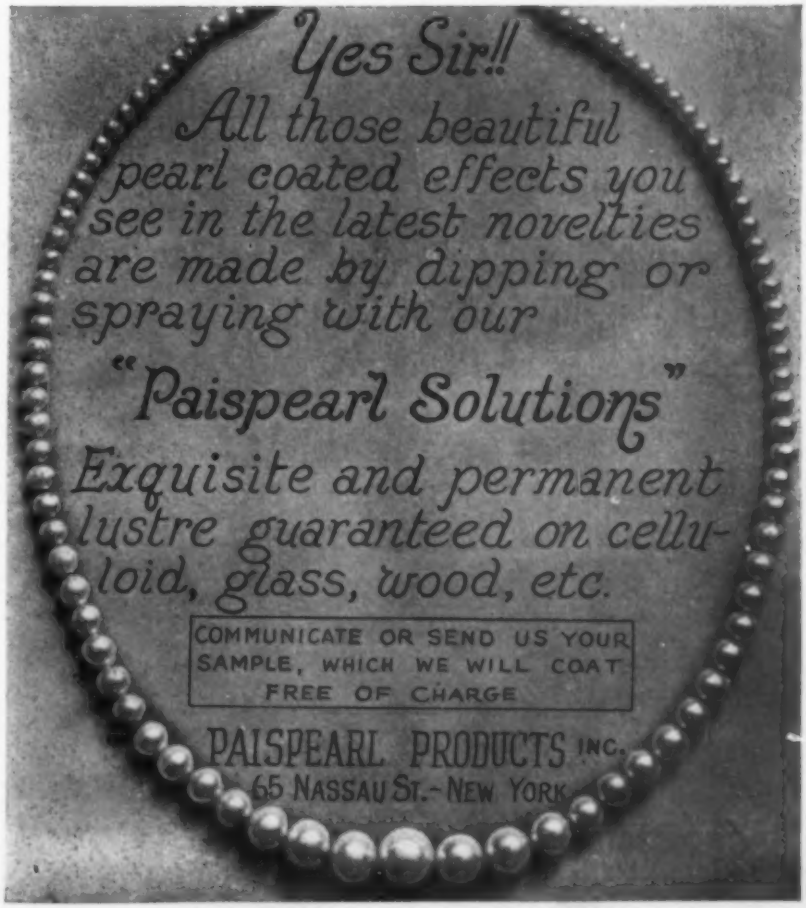
The immense amount of motion-picture positive produced and shown, makes the above process of considerable interest.

Casein Solids

(*Continued from page 229*)

heated to nearly or quite the boiling point and 3.32 lbs of borax or an equivalent amount of other acid-neutralizing agent is added, such as aluminum hydroxide or zinc hydroxide or other suitable hydroxide or mixture thereof. With the water still at or near the boiling point, there are slowly added, while agitating, the 100 lbs. of casein mentioned above and the heating and agitating the mass continued for about one-half hour. Some of the casein may at first be dissolved by the action of the acid-neutralizing agent present, but since there is not a sufficient amount of this neutralizing agent to react with the entire amount of acid present, the small amounts of casein that are dissolved or partially dissolved will be reprecipitated as the reaction proceeds. Almost immediately after it has been added to the hot alkaline solution, the casein will begin to swell, become sticky and gradually coalesce as the reaction progresses until a sticky mass is obtained. Usually from one-half to one hour's time is required for the heating operations, although it will be found that in some cases it is desirable to heat for a longer time, depending somewhat upon the quality of casein

After the partial neutralizing and heating treatment the liquid is run off from the hot sticky casein mass. The casein plastic is then while still hot placed in a suitable form or mold which is then transferred to a press and given sufficient pressure to not only assist in removing the excess water but also make the casein more uniform, stronger and less liable to crack or break. If desired, steam heated press plates may be used. The casein mass is now left in the presses for from 6 to 24 hours, depending upon the size and thickness of the sheets being produced. The pressure is then released, the casein solid removed from



the mold and may then be rendered more water-resisting by placing it in a solution of formaldehyde. After being in the formaldehyde solution from one to seven days, depending on the thickness of the sheets, the casein solid is removed, slowly dried, and then trimmed and polished.

Colored Products

In order to make colored casein solids, earth colors, pigments or dyes are added either to the dry casein before placing in the hot alkali solution, or to the solution before adding the casein. A variegated color may be obtained by coloring different lots of the casein or casein mass separately and then partially mixing together to secure the mottled effect.

It is to be understood that the method of procedure given in the above example may be varied to a considerable extent. For instance, instead of treating the casein with an alkali, a hydrate or hydrates, as hereinbefore specified, the surplus acid may be removed by washing with water until the acid content is brought down to within the 0.25%-0.75% limits specified. The manner of working the sticky casein mass after the desired degree of neutralization has been secured may be varied in many ways well known to those skilled in the art of making casein solids.

Various changes in the specific form shown and described may be made within the scope of the claims without departing from the spirit of the invention.

As the essence of the invention resides in compressing an acid precipitated casein whose acidity lies between approximately 0.75% and 0.25% of free acid, it would obviously constitute a mere equivalent of the invention to neutralize the casein and then to bring up the acidity by adding the necessary proportion."

T. J. Newcomb is now representing The Fiberloid Corporation in Denver, Sioux City, Omaha, Minneapolis and St. Paul.

Getting Your Product Tested

(*Continued from page 231*)

"Whether we can actually be of service to manufacturers or not, we are always glad to hear from them regarding their scientific problems. We are familiar with much of the work being accomplished by chemical and physical laboratories in all parts of the world, and in cases where we cannot conduct the tests requested, we are able, in most instances, to refer the manufacturer to a laboratory which can give him what he wants. In such cases, the cost is no more than it would be if we conducted the tests.

"The members of the Bureau are anxious to encourage the scientific testing of materials and manufactured products for the reason that all Government departments have found such tests to be tremendously advantageous."

W. S. Bechtold, president of the Newark Tortoise Shell Novelty Co., is now in Europe on a three months' trip.

M. Bechtold sailed May 12 on the S. S. George Washington.

H. E. Lancaster of the toilet goods department of Marshall Field & Company recently returned from a several months' visit to European centers.

How, Who, Why

Q. Are artificial pearls dangerous to the wearer? Are they not highly combustible?

Ans. We doubt if there are any artificial pearls on the market which consists exclusively of inflammable material. Many of them are really nothing more than cleverly colored glassbeads; some wax-filled and some simply coated with the pyroxylin and pearl-essence coating. The better grades are made from actual mother-of-pearl taken from shells.

TECHNICAL ABSTRACTS
AND PATENT REVIEW

CELLULOSE ACETATE. Maurice Deschiens, Revue des Produits Chimiques, 1926, 29, 37-42.

The article deals with the manufacture of cellulose acetate; acetylization by acetyl chloride, acetylization of natural cotton fiber, hydrolysis, precipitation of the acetate; acetylization of modified cellulose; acetylization in non-solvents; recovery of acetic anhydride; world production of cellulose acetate and its properties.

Regarding the production of this material: up to 1913 the annual output of cellulose acetate was hardly more than 200 tons, and when war was declared in 1914 a few tons were manufactured by the factory of the Usines du Rhone, in France. In Germany the principal producers were the Bayer Co., at Leverkusen and a few other plants, but mostly small producers. In Switzerland manufacture was carried on by the Cellonite Co. at Basle; and in the United States by the Cellulose Products Co. near Boston.

During the war the manufacture of cellulose acetate was very much increased. A huge plant was put up by the Usines du Rhone, and the Compagnie Generale des Produits Chmiques de Normandie, the latter Chimiques de Normandie, the latter working under the Dreyfus patents. In Great Britain, operations were carout on a large scale by the British Cellulose and Chemical Manufacturing Co. (now the British Celanese, Ltd.) In the United States manufacture was undertaken by the Cellulose Products Co., the Eastman Kodak Co., The Chemical Co. of America (Springfield, N. J.), and the American Cellulose and Chemical Mfg. Co. at Cumberland, Md., the latter being a projection of the Dreyfus interests into the U. S. A branch of the Dreyfus concerns was also started in Italy.

French production rose from a few tons monthly in 1914 to 45 to 50 tons per month in June of 1918, and to 65 tons per month in November of that year. The total production of the Allies reached about 100 tons per month. Since the war this production has been enormously increased in all countries, on account of the development of the cellulose acetate silk business and the increased demand for the material for plastics and non-flammable film.

ASBESTOS INSULATING MATERIALS. W. Hacker, Kunstsoffe, 1926, 16, 6-7.

Covers the production of both pressed and otherwise formed insulating materials based on asbestos and other fireproof materials. Some of the products are made by molding mixtures of fusible hydrocarbons or pitches with asbestos and other inorganic fillers, followed by burning at high temperatures. Other products are simply molded without further treatment.

PLASTIC MASS SUITABLE FOR CASTING. Alexander Perin, (Paris), German Patent 419,535, appl. May 18, 1925.

The mass consists essentially of gelatin and water, with fillers such as calcium sulfate, powdered alabaster, lithopone and a small amount of ferrous sulfate. The mixture of these substances is molten on a waterbath, and poured into suitable forms. After cooling, the casting is washed with dilute formic acid. The product is stated to be fairly resistent to heat, and quite solid. It melts above the softening point of most waxes.

RE-USING CASEIN PLASTIC SCRAP. A. Bartels and G. Eberhardt, assignors to Internationale Galalith Gesellschaft Hoff & Co., German Patent 419,536, appl. Oct. 23, 1923.

Casein plastic waste is first softened by immersion in water, or alkalies or acids, and then treated with more water in the presence of material capable of combining with formalaldehyde, such as sodium bisulfite. After this the re-covered casein is separated from the liquid, washed and dried. The product obtained is suitable for incorporation either with commercial casein or can again be transformed into casein plastics and hardened with formaldehyde.

CELLULOSE ACETATE PLASTIC. Charles M. F. Martin, French Patent 587,133.

A plasticizing agent for cellulose acetate is made by heating approximately equal amounts of phenol and para-toluene sulfamide, if necessary with the further addition of a small amount of trioxymethylene to combine with any excess phenol, the mixture being heated for 6 six hours to 100°C. When mixed with cellulose acetetate and suitable fillers, a readily pressed plastic mass is obtained. It has good mechanical and electrical properties.

FABRICATING CELLULOID ARTICLES BY DRAWING. A. Bahls, Celluloid Industrie (Gummi-Zeitung), 1926, 40, 181.

The methods used in the fabrication of wooden and other objects covered with celluloid, as well as the manufacture of thin celluloid boxes and containers in general is described and illustrated, covering German practice.

CELLULOID PLATES. J. Hands, English Patent 243,032, application date May 17, 1924.

Thin strips of cellulose are enclosed within sheets of celluloid, the object being a composite sheet of greater strength than the celluloid alone, the process also serving to retain volatile plasticizing agents. The outer surfaces can be hardened by treatment with solution of acetic or formic acids. The inflammability may be reduced by the use of ethane compounds.

POLISHING MATERIAL FOR CELLULOID. B. Moore English Patent 243,397, application date, May 27, 1924.

The polishing material consists of a celluloid solution, a fine powder and a fluid which will not exert any action on the celluloid. Example: 4 quarts of methanol (methyl alcohol) or turpentine, or else a mixture of 2 quarts each of these fluids, 4 quarts of Viennese lime and a quart of linseed or paraffine oil. The celluloid is polished with a thorough mixture of these ingredients.

PLASTIC MASSES. Anonymous. Gummi-Zeitung, March 26, 1926; Vol. 40, p. 1416.

A comprehensive account of the industry of pressed and molded material. The use of cellulose acetate, which is evidently very popular in Germany, is described in considerable detail. The article is divided into two sections: (1) extrusion and stuffing box methods for forming plastic articles, and (2), the hydraulic pressing of insulating material from molding powders. A screw-operated spindle press with dies is illustrated by a line-cut. The writer is a protagonist for hard rubber and sees no danger of the replacement of this material by the more modern plastic materials.

APPARATUS FOR REMOVING THE "WEB" BETWEEN TEETH OF PRESSED COMBS. Ernst Haupt, German Patent 424,687, application date Nov. 14, 1924.

When forming combs from pyroxylin plastics or casein plastics and the like by pressing operations, there often remains a thin film of the material between the teeth, usually termed a "web." The present patent is for a machine to cut away this web by means of a knife so arranged that it will cut obliquely between the teeth. The knife can be made movable or the comb may be advanced against the blade. The motion is such that the knife first enters the web and then advances, cutting the web in its progress.

TRANSPARENT CELLULOID TOY. Bayerische Celluloidwarenfabrik, formerly Albert Wacker A.-G. German design patent 933,847.

Consists of a hollow tube of transparent celluloid, filled with water, and provided with suitable ends which contain an opening for filling. The tube also contains a small hollow glass figure in the form of a little diver, provided with small glass tube which allows access to its interior. The toy is like the old Cartesian divers used several generations ago. Pressure upon the sides of the completely filled celluloid tube will force some water into the diver, as a result of which it will sink, rising again upon release of the pressure. The tube must be completely filled with water to get the best result. (This might be a good article for the American toy market. Ed.).

CELLULOSE ACETATE PLASTICS. Maurice Deschiens. La Revue des Produits Chimiques, 1926, 29, p. 151-153.

This is part of a general article on cellulose acetate. Deschiens gives a condensed review of the various cellulose acetate plastics proposed by such workers as Zuhl, Lederer, Manissadian and others. Includes a discussion of the various solvents and methods of operating. Preparation of metal screen covered with transparent cellulose acetate, and the use of the material for making splinterless (Triplex) glass is discussed. The article closes with methods for the manufacture of film and artificial silk from cellulose acetate.

CELLULOID-WORKING MACHINERY. P. A. Rickert, Celluloid Industrie, (Gummi-Zeitung), 1926, 40, 967-968.

An account of German machinery for cutting, polishing and otherwise working celluloid for the fabrication of combs, and other toilet articles. Illustrated.

RESEARCHES ON THE CELLULOSE ESTERS WITH HIGHER FATTY ACIDS. G. Kita, T. Mazume, J. Sakrada and T. Nakashima. Kunststoffe, 1926, 16, p. 41.

Esterification of cellulose with the anhydrides of stearic and palmitic acids was studied. Pyridine was found to be a suitable solvent in which to carry on the reaction. Details of operation, and tables showing the condition, yields, etc., are given. The content of the esters in fatty acid is relatively low, and the tri-esters are probably the highest ones formed.

PYROXYLIN ENAMELS AND LACQUERS. Samuel P. Wilson, M. A. Ph. D., 207 pages; illustrated. $3.00.

The most complete and up-to-the minute account of the increasingly popular pyroxylin lacquers and enamels; replete with accurate and proven formulae and manufacturing details. Just what the trade has been looking for—written by an accepted authority in this field.

Zyl-frame Patent Held Valid

According to a decision handed down August 5, 1925, and published in the Federal Reporter, Vol. 9, second series, p. 933, the Clulee patents No. 1,219,254, March 13, 1917, claim 8; and 1,366.768, Jan. 25, 1921, claims 1, 2 and 3, for a process of making celluloid eyeglass rims or spectacles and for eyeglass frames, respectively, were held valid and infringed by District Judge Hazel, in the U. S. District Court, Western District of New York.

At the same time the Schumacher & Boutelle patent, No. 1,384,862, was held invalid for want of invention.

The Clulee Patent

The decision states that the "first mentioned Clulee patent relates to the process of manufacturing eyeglass rims of the celluloid or zylonite type (zylonite, or zyl for short, is a form of celluloid), which concededly have salable advantages over metallic spectacles, in that they do not tarnish or discolor, as metallic frames are apt to do. The eighth claim only is involved. This reads as follows:

"An art of the character described, which comprises forming an elognated member from celluloid with a longitudinal groove therein, inserting a metallic wire within said groove, and rolling said celluloid member to force said metallic wire into interlocking relation therewith."

Accessories
For Toilet Articles

Wanted—Salesman for casein plastics in Chicago and district. Give age; if married or single. State sales experience in casein plastics or kindred material and give term with line of plastics. Write Box No. 7 c/o Plastics.

Higgins Wins Patent Decision

Information has just reached us to the effect that an interference proceeding, in the United States Patent office, between Dr. Higgins, of Jos. H. Meyer Bros., J. Paisseau, of France, and Mr. Norton, of the Fiberloid Co., has been decided.

Paisseau has decided to recognize the validity of the Higgins patents, and to distribute all of the iridescent products made by him under the trade name of "Nacrolacque" through Jos. H. Meyer Brothers. German manufacturers have also arrived at the same decision relative to the mother-of-pearl patents and will refrain from exporting such material to the United States, except through the agency of Meyer Bros.

The Molding of Very Large Objects

(*Continued from page 230*)

shown in the figure as 11 are preferably of a material having a slightly lower specific gravity than the alloy core-material, so that they will float in the same, but it is stated that they may just as well be heavier, in which case their weight will augment the pressure upon the object being molded.

After the body has been cured, the fusible core may be drawn off, the mold cooled, the filling member 11 withdrawn and the body removed from the mold.

This provides a cheap and simple method of molding large objects and it is evident that the invention is susceptible to a wide range of application. Figure 2 is a transverse view of Fig. 1, at the line II-II(and figure 3 is a modified way of carrying out the invention as applied to open objects, such as boats.

The patent was applied for August 23, 1921.

NEW BUILDING AT VISCOLOID

Structure Containing 54,600 Square Feet to be Erected Soon

Leominster: Plans are already under way for a large addition to the Dupont-Viscoloid Co., plant on Lancaster Street, that will add greatly to the plant and its possibilities.

The prospective building is to be of brick construction, three stories high. It is to be 260 feet long by 70 feet wide and will add about 54,600 square feet of floor space to the plant's capacity, which is already the largest and most extensive in the city. The structure will be used both for manufacturing purposes and for shipping and will be built next to one of the other buildings there.

New President for Celluloid Company

The Celluloid Company has elected Mr. Robert Campbell as its new president, to take active charge of the company on July 15th, 1926. Mr. Campbell was for many years connected with the Nairn Linoleum Company, of Kearny, N. J., being a son of one of the founders of that concern. It is confidently expected that under the leadership of Mr. Campbell the Celluloid Company will be able to achieve again the prosperous condition that was its good fortune for upward of forty years.

Tariff Board Denies Motions To Dismiss Phenolic Resin Case

Washington—Motions to dismiss the entire proceedings on the ground that the commission has no jurisdiction and that a civil suit under the patent laws should have been the remedy sought, were entered by attorneys for importers at the final hearing before the Tariff Commission on the petition by the Bakelite Corp. and others charging unfair practices in importations of synthetic phenolic resin. Form C, and articles made therefrom. Both sides were given until July 5 to file briefs.

A preliminary motion to dismiss on the same grounds as the final motion was denied earlier in the week by Chairman T. O. Marvin, pending full presentation of the case, as was a motion to rescind the order of the President issued in April prohibiting imports until the case has been investigated.

Safety Measures
in
Celluloid Plants
Coming!

Trade Marks

Ser. No. 223,717, Filed Nov. 23, 1925. Hydraulic Press Mfg. Co.

A drawing showing a conventionalized hydraulic press in front elevation, with the letters H-P-M High Pressure Hydraulic and the slogan "For Pressing Needs." No claim is made to the words or slogan apart from the pictorial representation of the trade mark. Use is claimed since March 1, 1923.

Ser. 221,592. Bakelite Corporation, Filed Oct. 12, 1925.

The word BAKELITE. For meter frames, discs and cases, ammeter cases, speedometer parts, wheatstone bridges, capacitance meter parts, flowmeter parts, stirring rods, pipettes, burettes and burette stands,graduates, photographers trays, camera cases, goggles, color screens, microscope stages and lens frames, watch glasses, guage glasses, crucibles, beakers, lenses, ray filters, spectacle frames, reading-glass handles and frames, section liners, centrolineads and protractors.

Ser. 222,432, Bakelite Corporation. Filed Oct. 28, 1925.

The word BAKELITE. For Radium placques, ozonizing apparatus, violet-ray generators, manicure sets, handles for dental and surgical instruments, cautery insulation, grinding wheels of dental instruments, teething rings, and artificial teeth.

Serial 222,428. Bakelite Corporation. Filed Oct. 20, 1925.

The word BAKELITE. For clock cases and watch cases.

The Plastering Art, the official journal of the Master Plasterers' Association of San Francisco has applied for a trade mark on its name, claiming use as of July 28, 1925.

Pyroxylin on Putters

Pyralin caps on putters (golf clubs), provided with a design in the form of the letter T, to guide the golfer in properly aiming his put toward the cup, are a recent innovation in this field, the putter being named after its inventor, Mr. McDougall. The clubs are being marketed by the Thistle Putter Co., of New York City.

BOOKS

Cellulose Ester Varnishes.
F. Sproxton. 1925. $4.50.

An exceptionally well-written book on the general subject of the cellulose ester lacquers. Up-to-date and sufficiently non-technical to be of inestimable use to manufacturers.

Synthetic Resins and their Plastics.
Carleton Ellis. 514 pages, illustrated. $6.00.

The book will serve as a guide and prove a stimulus to the numerous investigators and practitioners in the field of artificial resins. The section of plastic molding is especially valuable.

Plastics and Molded Electrical Insulation.
Emile Hemming. 313 pages. Illustrated. $5.00.

Very special care has been taken in the preparation of the chapter of molded insulation. Contains hundreds of references to plastic and composition products and their utilization.

Celluloid.
Its raw material, manufacture, properties and uses.
Dr. Fr. Bockmann. 188 pages. 69 illustrations. $3.50.

In this book, the raw product, cellulose and its properties are thoroughly described. Other raw materials and methods of rendering them more plastic also occupy attention.

Pyroxylin Enamels and Lacquers.
Samuel P. Wilson. 213 pages. Illustrated. $3.00.

An authorative work dealing with the materials and manufacture of pyroxylin solutions and with their application in the industry.

Any of the above can be obtained by writing to

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BAKELITE
Bakelite Corporation

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Kasebier-Chatfield Shellac Co.

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